



## Back Safety & Ergonomic Training

### HEALTH CARE



A woman with blonde hair, smiling, wearing a black blazer over a light blue collared shirt. She is holding a silver binder or folder under her left arm. The background is a light blue wall.

## Keep Yourself Safe

Michigan's healthcare workers provide high-quality patient care in hospitals, medical clinics, nursing and resident care facilities, and hospice and home care.

And it's an exciting time for the healthcare industry. More people are working in the field, and new medical technologies are coming online all the time.

Although the industry may seem like it's rapidly changing, there is one thing you have control of: Keeping your body, especially your back, safe.



# Injuries are Preventable

## Michigan's Injury & Illness Rate Remains Above the National Average.\*

### Injuries are from:

- Patient/Resident Handling
- Slips, Trips, and Falls

### Affecting:

- Trunk (upper and low body/back)
- Upper and Lower Extremities

### Due to:

- Worker's motion or position

Back and ergonomic injuries interfere with work and home life.

The good news is that these injuries are preventable.

\* 2015 BLS/OSHA/MIOSHA

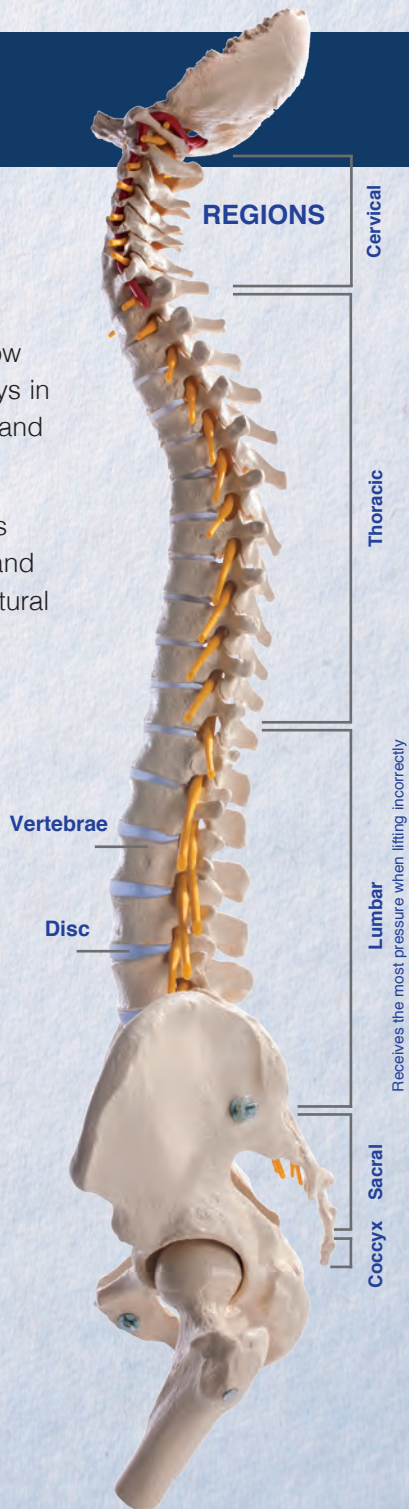
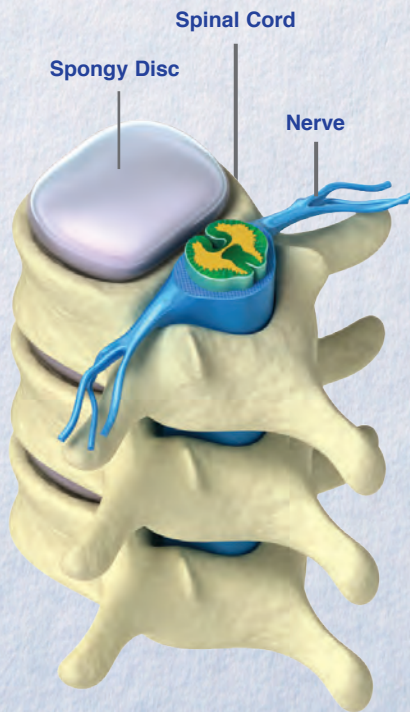


# What's Going On Back There?

The spinal column protects the spinal cord and nerves attached to it.

Muscles attached along the spine allow for flexibility and they are almost always in use—when sitting, standing, moving, and even sleeping.

The best way to keep communications open between the brain, spinal cord and nerves—maintain the spine's three natural curves and muscles surrounding it.





# Back Injuries Are Not Due to Old Age

## The worst thing you can do to your spine is:

1. Bend and Twist While You Lift
2. Use Poor Posture
3. Not Exercise

Doing any one or all three of these will promote an injury.

### Subluxation:

A misalignment of one or more vertebrae. This condition restricts the spine's normal position and movement, creating nerve interference and pain.

### Muscle Spasm:

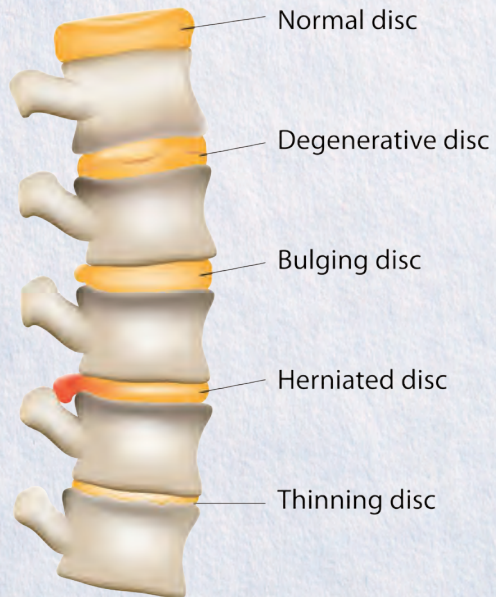
When there's an injury to the spine and when the muscles tighten to support the spine.

### Torn or Strained Muscles and Ligaments:

This occurs as a result of repetitive lifting or a sudden impact such as a fall.

### Herniated Disc:

When a disc ruptures and puts stress on the nerves and spinal column.



# Work Smart

## National safety groups set standards for you to follow to keep you safe on the job.

### OSHA\*:

1. Never lift when off balance.
2. Never lift with the spine rotated.
3. Lift loads close to the body.
4. Move slowly and purposefully.
5. Don't jerk or twist your body.
6. Think about how you will lift the load before doing the lift.
7. If you think the load is too heavy, seek help.



### NIOSH\*\*:

1. Maintain a wide, stable base with your feet.
2. Put the bed (or object) at the correct height (waist level when providing care; hip level when moving a patient.)
3. Keep the work directly in front of you to avoid rotating the spine.
4. Keep the patient as close to your body as possible to minimize reaching.



\* Occupational Safety and Health Administration ([OSHA.gov](http://OSHA.gov))

\*\* National Institute for Occupational Safety and Health (2009 DHS CDC NIOSH Safe Patient Handling Training for Schools of Nursing, [cdc.gov/niosh/topics/safepatient/](http://cdc.gov/niosh/topics/safepatient/))



# Work Together



Whether you work in Nursing, Dietary, Housekeeping, Radiology, Administration/CEO, etc., each and every one of you have an important role to play—equally—in your safety, that of your co-workers and overall work environment.

Remember, when you are injury-free, you're happy. When you're happy, your patients and residents are safe and happy.

# You're an Athlete

Like professional athletes, you make your living working in the healthcare field—your playing field.

Successful athletes use the strength of their hips and legs to perform their sport. They also use good posture and body mechanics to maintain the back's natural S-curve.

## Be a Successful Athlete

- Use the strength of your hips and legs to perform your patient care.
- Use good posture and body mechanics to maintain the back's natural S-curve.
- Drink water and eat a healthy diet to get the greatest amount of energy to your muscles, ligaments, and bones.

Do these and you'll have as much energy at the end of your shift as you did at the beginning of your shift.





# Work Within Your “Neutral Zone”

The “Neutral Zone” is the space between your waist and shoulders.

When lifting an object, keep it close to your body and within this area.

Position/raise patient beds and use patient transfer devices to keep your work in front of you and within this zone.

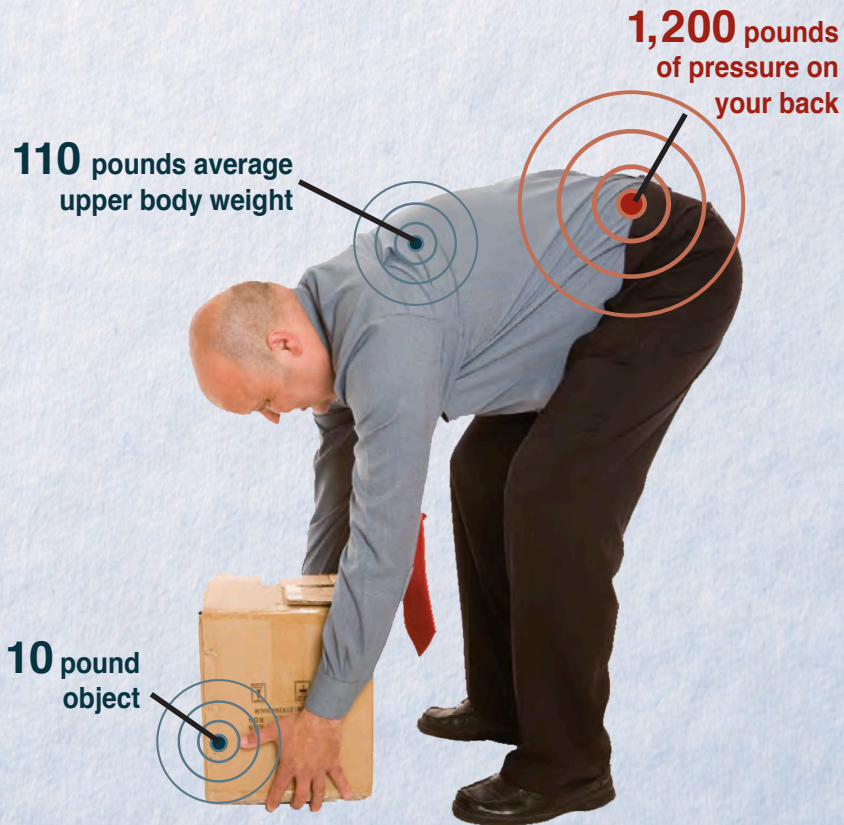
Moving objects outside your “Neutral Zone” is dangerous.



# Why Bending at the Waist is Incredibly Dangerous

Bending at the waist to lift an object, regardless of its size, shape or weight, can lead to a back injury.

Your back operates at a 10:1 ratio. This means the weight of the object and the weight of your upper body is magnified 10 times when you bend at the waist. That is a tremendous amount of stress to the lumbar area of your spine.



$10 \text{ pound object} \times 10 \text{ (10:1 ratio)} = 100 \text{ pounds}$

$110 \text{ pounds (ave. weight of male upper body)} \times 10 \text{ (10:1 ratio)} = 1,100 \text{ pounds}$

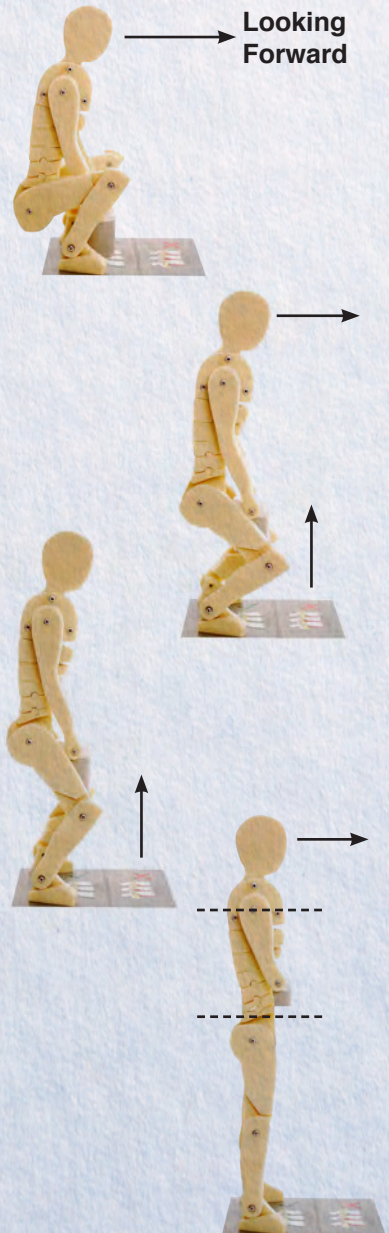
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**1,200 pounds**



# How to Lift Safely

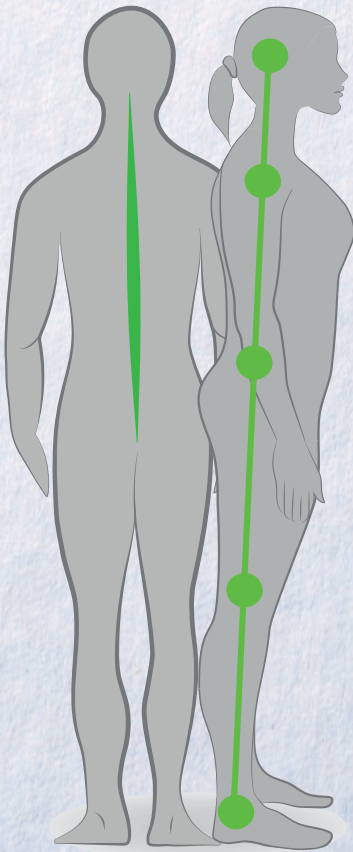
- **Assess the situation:** Can you lift safely or is it a two-person lift? Is the path clear of clutter? How far will you need to carry the load? Can the load be broken down into smaller parts?
- **Size up the load:** Test the weight by sliding one corner with your foot. If too heavy or when in doubt, ask for help or try using a mechanical lift.
- **Stand close to the load.** Center yourself over the load and stand with your feet shoulder-width apart.
- **Tighten your stomach muscles** to help support your back.
- **Straddle your feet** around the load and squat down like a weightlifter, bending at the knees, looking straight ahead.
- **Get a good handhold** around the object on opposite sides, keeping the load close to you.
- **When ready to lift, look forward.** Lift the object straight up in a smooth motion, keeping it close to your body, into your "Neutral Zone." Keep breathing through the lift.
- **Do not twist or turn** your body while lifting.
- **Turn with your feet** to the direction you want to go. Keep your nose and toes pointed in the same direction.
- **Set the object down** in the same way you lifted the object.



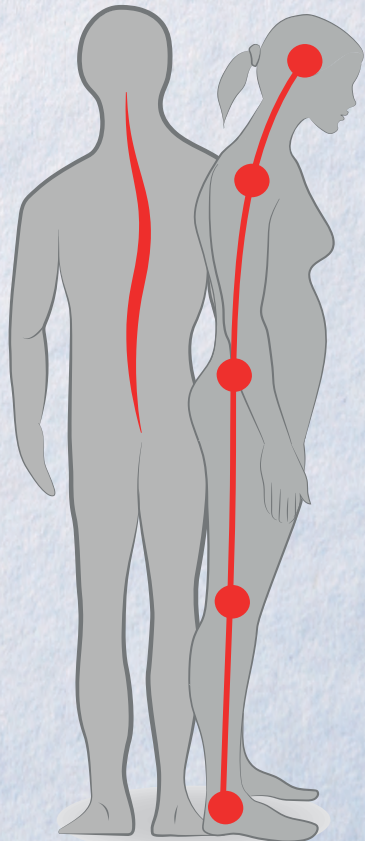
# Proper Posture Makes a Difference

The saying is true: "Practice makes perfect."

Practicing good posture will resolve many health issues right off the bat.



correct



incorrect



# Mini “Stretch Breaks” Maintain Flexibility

**Cross Stretch:** Stand with arms bent at 90-degrees, elbows pointing forward, and hands toward ceiling. Raise knee toward opposite elbow. Don't worry about touching knee. Keep facing forward. Repeat on other side.

**Neck Roll:** Lower head forward. Roll to side, until ear is even with shoulder. DO NOT roll backward. Repeat to other side.

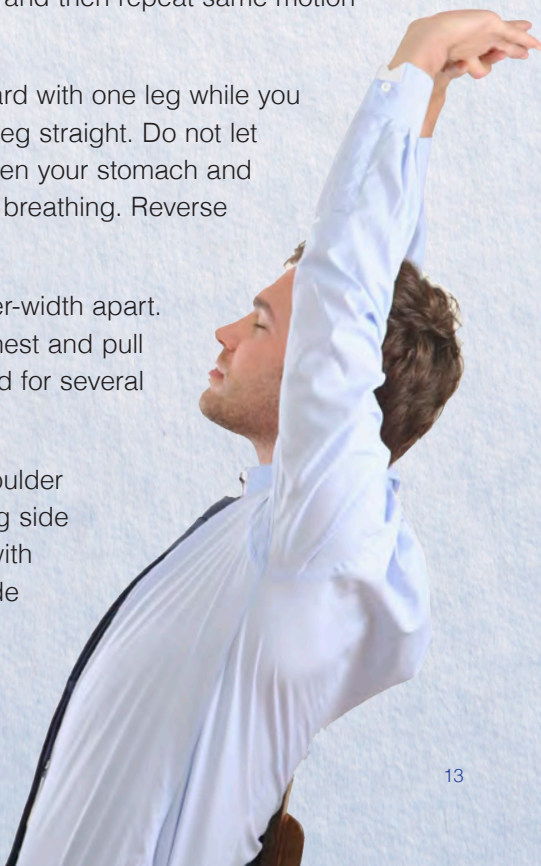
**Shoulder Stretch:** Squeeze shoulder blades together. Raise arms out to sides and up over head. Breathe in as arms go up and breathe out as arms go down.

**Shoulder Roll:** Stand with feet shoulder-width apart. Roll shoulders in full circle forward several times and then repeat same motion going backward.

**Stomach Tightening:** Step forward with one leg while you keep your upper body and back leg straight. Do not let forward knee go past ankle. Tighten your stomach and hold stretch for 20 seconds while breathing. Reverse and do other leg.

**The Hug:** Stand with feet shoulder-width apart. Hug self with elbows in front of chest and pull shoulders forward and down. Hold for several seconds, relax and repeat.

**Side Stretch:** Stand with feet shoulder width apart. Place one hand along side of leg and other hand overhead with palms facing outward. Lean to side and slide hand down side of thigh. Breathe, hold for 20–30 seconds. Don't bounce. Repeat on other side.



# Strong Core Muscles Protect Your Back...

Core muscles run deep within your upper body and torso. Core exercises strengthen core muscles — including back, abdomen, hips and legs.



## Bridge

Lie on your back, knees bent and together with arms to your side. Keep back in neutral position—not arched or pressed into floor. Tighten abdominal muscles. Raise hips off the floor until they are aligned with knees and shoulders. Hold for 3 deep breaths. Return to start position and repeat. Works abdominals, lower back, and glutes.

## Plank

Lie on your stomach. Raise yourself up so that you're resting on your forearms and your toes. Align your head and neck with your back, and place your shoulders directly above your elbows. Tighten your abdominal muscles. Create resistance by pressing your elbows and your knees toward one another. Hold for three deep breaths, release and repeat. Modify the Plank by lifting up on your forearms and knees. Works abdominals.





## ...and Make Daily Activities Easier



### **Side Plank**

Lie on your left side, raising yourself onto your left forearm. Place left shoulder directly above your left elbow, keeping your shoulders, hips, and knees in alignment. Rest your right arm on your hip or along the side of your body. Tighten your abdominal muscles. Hold for three deep breaths. Repeat on your right side. Works hips.

### **Modified Superman**

Lie face down and place hands behind head. Keep your neck in a neutral position. Gently extend the spine to raise the chest slightly off the floor to a comfortable height, and raise the legs off the ground, forming an elongated 'U' shape with your body. Hold for several seconds, release and repeat. Modify exercise by extending right arm out front while extending left leg up and repeat on opposite side. Works lower back.





### **Push Up**

Position hands slightly wider than shoulders. Raise up on toes. Keep body in straight line without sagging or arching your back. Tighten your core by pulling belly button toward your spine. Inhale while slowly bending elbows, lowering yourself where arms are at 90-degree angle. Exhale pushing back up. Don't lock elbows, keep them slightly bent. Works chest.



### **Mid to Upper Back Stretch**

Kneel on the floor. Lean forwards with arms outstretched as far as possible and hands on the floor. Push your buttocks down toward your feet keeping your hands still to increase the stretch. Hold for between 10 and 30 seconds, release and repeat. Stretches mid- to upper back.

### **Lower Back Stretch**

Lay on the floor on your back. Bring your knees up to your chest and use your arms to pull them in further. Hold for between 10 and 30 seconds, release and repeat.





# Ergonomics

Ergonomics is the relationship between people, the tasks they perform and the tools they use in their work environment. Effective ergonomic practices help to decrease back injuries and increase job satisfaction.



## Ergonomic tips:

### For Your Eyes:

Reduce computer glare. Place your monitor away from bright lights. Take eye breaks and refocus on distant objects. Keep approximately an arm's length between you and your computer screen.

### For Your Neck:

Lightly support your forearm on your armrest or desk. Adjust your chair and keyboard heights so that your shoulders are relaxed. Position your computer monitor 2-3 inches above your seated eye level. Your hands should freely move above the wrist-rest, with wrists in a straight, neutral position.

### For Your Hands and Wrists:

Try alternating tasks between both hands. Hit the keys on a keyboard with a light force. Keep your wrists straight and your hands relaxed. Grasp items using your entire palm. When typing or using tools, minimize bending, flexing, or twisting your arms, wrists, or hands.

### For Your Back:

Always PUSH carts/items. Avoid pulling items.

# Invest in Yourself

## **Eat:**

Eat more: fresh fruits, vegetables, and fiber from legumes (beans, lentils, chick peas, etc.) and whole grains. Drink water instead of pop and other high-sugar drinks to prevent weight gain.

## **Exercise:**

Add a brisk walk for 20–30 minutes every day. This will make you stronger and more flexible. It will boost your metabolism and burn more calories. (Check with your doctor before starting an exercise program.)

## **Enjoy:**

Regular exercise, good nutrition and even a good night's sleep help to reduce stress to you and your muscles. Smiling and laughing keep stress low. So does trying something new like taking a class or starting a new hobby.





# You Will Ace This Quiz

**1. Patient transfer devices are made possible to keep yourself safe from injury.**

- a. True
- b. False

**2. Which risk factors can lead to back injuries?**

- a. Not using patient transfer devices
- b. Poor physical condition
- c. Using your legs/hips to power your lift
- d. Favoring one side to complete tasks
- e. Twisting and bending at the waist
- f. Answers a, b, d, and e
- g. All of the above

**3. How many natural curves shape the spine?**

- a. 10
- b. 12
- c. 3
- d. 2

**4. The spine and the muscles attached to it are almost always in use.**

- a. True
- b. False

**5. Which statement about posture is correct?**

- a. Poor posture can lead to back strain
- b. Good posture maintains the back's natural S-curve
- c. Your ears should be in line with your shoulders
- d. All of the above

**6. When you lift a 10-pound object while bending at the waist, you are putting nearly 1200 pounds of pressure on your lower back.**

- a. True
- b. False

**7. When you lift an object properly, which answer is correct?**

- a. Nose faces towards the front, while toes face the back
- b. Hold your breath when completing the lift
- c. Bend at the waist when lifting an object
- d. Bend at the knees, squatting down like a weightlifter

**8. Which of the following is the best safe lifting tip?**

- a. Push objects
- b. Pull objects
- c. Drag objects

**9. What can you do right now to prevent a back or ergonomic injury?**

- a. Never bend at the waist when completing a lift
- b. Include a 20–30 minute brisk walk into your daily routine
- c. Drink more water and eat more fruits and vegetables
- e. Do 1–2 core muscle exercises for strength
- e. All of the above

**10. Why is preplanning your patient care important?**

- a. Keeps you safe
- b. Keeps your patients safe
- c. Prevents workplace injuries from slips, trips, and falls
- d. Makes you happy
- e. All of the above

**11. Safety committees are successful when:**

- a. Company mascot is involved
- b. State mascot is involved
- c. You, your managers and owners/CEOs are involved
- d. Customers are involved

# Work Safe Today!

## You'll Be Glad You Did.



[WorkSafeHealthcare.com](http://WorkSafeHealthcare.com)



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